



SAMPLER **FAMILY AND COMMUNITY INVOLVEMENT IN SCIENCE**

Scientifically Speaking . . .

**Science is exciting, important, and current.
With partnership activities, students apply and learn it!**

Many parents struggle to help their children in science. At the elementary level, science is often overlooked, as teachers and students spend most of their time in reading, language arts, and math. Science homework is rarely assigned in the early grades. In secondary schools, science is regularly scheduled, but middle and high school teachers may not be aware of how parents can interact with and motivate students to do their best in science.

Involving parents and the community in ways that support students in science can be both powerful and helpful to students. All parents have a “fund of knowledge” that could be shared with students as they apply science at home, at work, and at play. Community experts can provide many resources to assist and enrich classroom instruction. Museums, hospitals, zoos, non-profit organizations, park and recreation agencies, local colleges and universities, business partners, and many others may collaborate with districts, schools, and teachers at every grade level to support and enrich the science curriculum.

Science projects, field trips, and simple experiments may be assigned that enable

students and families to explore scientific concepts and community resources together. Science classroom units may end with culminating “showcases” for students to demonstrate for parents what they learned.

Members of NNPS have, over the years, shared many *Promising Partnership Practices* in science. The examples in this ***Sampler***, arranged alphabetically, include various ways to organize science fairs, field trips, family nights, workshops for parents, and other creative activities. The ***Sampler*** illustrates all six types of involvement in the NNPS framework: *parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community.*

The ***Sampler*** includes just a few of many excellent science involvement activities in the annual collections. For more ideas, visit www.partnershipschools.org. Follow the paths to Success Stories and to a particular year’s book and click on Science. New collections are compiled every year, so visit the NNPS website often. Members are encouraged to submit their best science involvement activities for a future edition.

◆ Recommendations from Research ◆

- ✕ Communicate with families about how important it is for them to encourage their children’s learning and on-going education in science.
- ✕ Help parents and other family members with information about out-of-school science learning opportunities in local museums, parks, libraries, colleges, and other locations.
- ✕ Implement an interactive science homework program in which teachers regularly assign homework that guides students to conduct experiments and activities with a family partner-science helper so that students can show and discuss what they are learning in science.

This ***Sampler*** was developed by Marsha D. Greenfeld, Steven B. Sheldon, Joyce L. Epstein, Darcy J. Hutchins, Brenda G. Thomas, and Jenn Ganss. NNPS is grateful to MetLife Foundation for its support to increase family and community involvement in schools and districts, nationwide. Baltimore: National Network of Partnership Schools, Johns Hopkins University, 2009.





Review of Research: Family and Community Involvement in Science

Steven B. Sheldon, NNPS Director of Research

There are fewer studies on the effects of school, family, and community partnerships on science attitudes and achievement than on the results of involvement in reading or math. Given the current emphasis on student achievement on science tests, it is important to understand the results of the studies that have been conducted. Studies to date support the importance of family involvement with students in science and the need for schools to actively work to engage all families in their children's science education.¹

Involvement Improves Student Attitudes. As with math, family and community involvement may affect students' attitudes about science and, in turn, their achievement and the science courses they take. Studies showed that parents play an important role in developing children's science attitudes by engaging in science activities at home and by taking their children to libraries and museums. Also, parents' attitudes about their child's ability and interest in science were shown to strongly predict children's self-perceptions of themselves in learning science.

Involvement Increases Student Achievement. One study using national data from students in grades 4, 8, and 12 found that students from low-income families did not perform as well in science than their more affluent peers. This study also showed that parent education and measures of the home environment helped compensate for the effects of income and minority status. That is, students from families with low incomes and from all racial and ethnic groups had higher science scores if their parents had more formal education and/or encouraged their education at home. Importantly, the study found that without these positive family influences, the achievement gap between students from low-income and affluent families widened from grades 4 through 12. The findings suggest that family involvement may be especially important for students who are most at risk of experiencing failure in science.

Teachers can have a significant positive effect on students' science achievement if they involve families with students on science homework. In a quasi-experimental study of TIPS-Science interactive homework, results show that families whose middle school students received weekly interactive homework in science were significantly more involved with their children on science compared to families of students in the control group whose teachers did not use TIPS. This study also found that TIPS students had higher science achievement test scores than their control-group peers. The findings suggest that schools can and should encourage more science-focused family involvement at home to increase students' completion of science homework, boost discussions about science at home, and increase students' success in science in the middle grades. Learn more about TIPS Interactive Homework for science in the middle grades at www.partnershipschoools.org. Click on TIPS.

- 1) For details on these and other studies and complete references, see:
Sheldon, S. B. (2009). Improving student outcomes with school, family, and community partnerships: A research review. Pp. 40-56 in Epstein, J. L. et al. *School, family, and community partnerships: Your handbook for action, third edition*. Thousand Oaks, CA: Corwin Press.





A NIGHT UNDER THE MILKY WAY

SALISBURY MIDDLE SCHOOL
SALISBURY, MARYLAND

Much in the way that stars pull together to form galaxies, three events were clustered into one shining evening at Salisbury Middle School's second annual Night Under the Milky Way this year. By scheduling parent-teacher conferences, a family dinner, and a science expo back-to-back-to-back, the school's Action Team for Partnerships (ATP) pulled off a mega-event that was, by all accounts, stellar.

Student-constructed displays of galaxies and the planets of the solar system constellated the walls of the school's classrooms, hallways, and lobby, while parents spent the first 60 to 90 minutes meeting with their children's teachers. To receive a ticket for the free dinner—pizza, salad, and dessert prepared and served by the PTA, parents first had to visit with at least two of their children's teachers.

The big draw for students and their families, however, was the main event. With the assistance of Salisbury community partners, including NASA and the local police lab, over 15 activity areas were set up around the school, each dedicated to a different topic in the science curriculum. Science was scheduled to be tested for the first time on the 2009 Maryland State Assessment (MSA) for 8th graders. The science activities and information were targeted to the 8th grade students, as well as to the 6th and 7th graders, who would take the test in the future.

At each activity booth, students and parents worked together to complete various assignments, which the ATP planners dubbed "missions." On these missions, families collaborated on questionnaires, used technology, built and launched paper rockets with NASA, observed the night sky in a planetarium that had been set up in the gym, and more. Through the PTA, a number of parents also staffed the "mission centers."

The missions bolstered other important skills on the MSA by assisting students with their writing, reading, math, and critical thinking skills

as they conducted research and analyses, drew conclusions, and prepared summaries. At the same time, parents developed a better understanding of the academic program their children were responsible for at school and gained ideas of how to reinforce the curriculum at home.

The event contributed to an additional positive side effect on overall parent involvement: PTA participation, for example, increased by 42% for the year.

Technology was an important part of both the event and the publicity. Administrators and teachers were costumed as astronauts and aliens for a series of humorous "television commercials" that announced the occasion. These publicity spots featured special appearances by Darth Vader, Princess Leia, and cameos by other Salisbury Middle School students.

A partnership with the Discovery Channel provided the school with raffle prizes—including the grand prize, a computerized telescope. All star-faring students who completed five missions could enter the drawing as a reward for their success.

Any who doubt the bravery of these enterprising cadets should heed this 6th grader's testimony: "Chocolate chip cookie mining in the Moon Archaeology Mission was awesome! I loved eating my moon!"



DANGEROUS DADS

**GEORGE ROSS ELEMENTARY SCHOOL
LANCASTER, PENNSYLVANIA**

Whether they're flipping burgers over a flaming BBQ grill, standing precariously at the top of a ladder holding a lightbulb, or preparing for battle against invading spiders and mice, dads are historically renowned for their willingness to be risk-takers. When it comes to educational involvement, however, members of the Action Team for Partnerships (ATP) at George Ross Elementary noticed that students' male role models were largely under-represented at school events and parent-teacher conferences.

To make better use of dads' more adventurous spirits, the ATP enlisted their help for its first Dangerous Dads Math and Science Night this fall. Not only did the team want to encourage students' fathers and father-figures to attend a school event, but also to give them an opportunity to take a leadership role in one. The Dangerous Dads manned booths where, with a host of related activities, attendees were able to learn more about the school's science and math curricula. While the planning and implementation of the event was managed by the Dangerous Dads, it was open for all family members to attend.

In addition to supporting male family partnerships at George Ross, the Math and Science Night also helped realize specific school improvement goals related to the two subjects. By linking the math and science content with family interaction, students and parents were better able to internalize the importance of both.

At the ATP's summer planning sessions, the idea for the night arose from a member who was also a father of two George Ross students. The team immediately supported his idea and the first steps of planning were taken quickly in order to have the event in the fall. The ATP partnered with the community. One local science education group hosted activities at one of the booths and another company provided safety equipment for the Dangerous Dads who were presenting science

phenomena.

Beyond the usual publicity channels—flyers, newsletters, online resources, and so on—the ATP sent specific invitations to each student's father or male guardian. Teachers selected father/student teams from each classroom to run the booths. The Dean of Students held a training session for the Dangerous Dads on the activities they'd be presenting.

The Dangerous Dads Math and Science Night opened with a science presentation for attendees. Each student received a "lab sheet" that walked them through the steps of the scientific method. This first presentation also modeled how students could use the lab sheets to record information from the experiments. The same lab sheets were available at every booth and students (with their families' help) were expected to fill one out for each activity, detailing what they learned. At the end of the night, the families gave these lab sheets back and the ATP evaluated the practice's success based on the quality of the responses.

At each of the booths, district curriculum materials and supplies were on display for families. Parents were invited to review these and speak with school staff if they wanted to know more. The activity stations also featured instructions on how to replicate the experiments at home, all of which could be done easily with household items.

Altogether, the event cost \$1,000 in Title I funds. At next year's event, the ATP would like to expand the event to include more presenters—along with a few outdoor experiments, which should encourage more Dads to be even more Dangerous.



Family and Exhibit Nights

*Museum Magnet School
St. Paul, Minnesota*

Dedicated to the museum process of explore, experiment, explain, and exhibit, the Museum Magnet School hosts four Family and Exhibit Nights each year for different grade levels to show what they have learned and to help parents support their children's learning at home. Following a light supper, Family and Exhibit Nights feature presentations by two grades that incorporate demonstrations, props, storytelling, and interactive learning stations. Two nearby high schools share their students to help run the learning stations and serve food.

Much of what the Museum Magnet School achieves stems from its relationship with the Minnesota Science Museum, a relationship established as part of the school's founding. The current agreement provides a Museum staff member who helps organize Family and Exhibit Nights, teaches the children at the school, sets up exhibits within the school building, and sits on the Site Council. The Museum also loans the school materials such as powerful magnets and microscopes. Once a year, the Museum hosts a Family Night for the school, and twice each year, students take field trips to the Museum, where they learn how the museum staff creates exhibits.

On Family and Exhibit Nights, students present their prepared exhibits, with both written and oral components, and answer "key knowledge" questions asked by parents. The students' presentations help parents learn more about the curriculum standards used at the school and the processes by which their children learn. Many exhibits focus on scientific concepts like magnetism; however, a recent exhibit featured sixth-grade students presenting poetry—teaching about the different types and providing an opportunity for families to write poems and make books of their work. Learning stations include hands-on areas, where participants explore activities such as origami. Regardless of the learning station's focus, each must include activities

that parents can work on at home with their children.

Parents on the Action Team for Partnerships (ATP) determine the number of learning stations and the activities each will include. Some parents who do not have children presenting volunteer to man a station or help serve food. Teachers help the students prepare their presentations and write the "key knowledge" questions that parents ask when the students show their exhibits. The administration oversees the event and the sign-in table, while support staff publicizes the event, orders food and other supplies, and recruits volunteers.

High school student volunteers contribute to the success of Family and Exhibit Nights. The volunteers receive service-learning hours for supervising learning stations, serving the meal, and cleaning up afterwards. By volunteering, they learn people skills and networking. The teenagers' participation also eases the anxieties of the parents of the elementary and middle school students about the high school years. Parents are impressed with the high schoolers' knowledge, kindness, and maturity. One parent commented, "These high school kids are great; they are so polite. I am feeling much better about my kid going on to high school." The high school volunteers also help the teachers by freeing them up to interact more with the families of their students.

The school, family, and community partnerships fostered at the Museum Magnet School clearly benefit everyone involved, especially the children—young and old. As a result, the school and Museum will continue to collaborate, especially on the Family and Exhibit Nights. The ATP may have to rethink offering dinner, because of the cost, and will explore ways to involve the high school students in the event planning and the exhibit process in the classrooms.



“Oops—Turn Me Off!” Science Family Night

*Roosevelt Elementary School
St. Paul, Minnesota*

When families arrived at Roosevelt Elementary School’s “Oops—Turn Me Off” Science Family Night, they found the cafeteria transformed into an interactive science lab, with seven stations for learning about energy. Wearing long, white lab coats, members of the school’s Action Team for Partnerships (ATP) staffed each station. Scientist Casey, the school’s science teacher, greeted the kindergarten through third-grade students and their parents with an energy-efficiency quiz, rewarding correct answers with a free book.

After a suggestion from the science teacher, Roosevelt Elementary School’s ATP organized the family night as part of the St. Paul School District’s Schools for Energy Efficiency (SEE) Program, a comprehensive initiative to help promote and implement energy efficiency among all schools in the district. The event also helped prepare students for the third-grade state science test required by No Child Left Behind.

With the principal’s support, a committee comprised of teachers, a district representative from the SEE Program, the SEE site leader, and the ATP facilitator planned Science Family Night. The district provided a variety of materials for the event, including posters. To advertise, teachers handed out fliers in multiple languages and collected families’ RSVPs.

Stations at Science Family Night included an interactive computer project; the Lyden jar experiment, in which wool is rubbed against a Styrofoam plate to produce a spark of electricity; the game “Operation,” where stu-

dents learn about human anatomy by pretending to perform surgery; magnets; constructing fun energy crowns out of headbands, pipe cleaners, and rubber light bulbs; and an energy bike. The special bicycle, provided by the district, powered a generator. Students pedaled the bike to find out how much energy a variety of appliances and electronic devices require. At the end of the evening, some children received refurbished bicycles as door prizes.

“Oops—Turn Me Off!” Science Family Night proved to be a huge success. Through written evaluations circulated among volunteers and planning committee members, as well as phone calls to parents, the ATP received a great deal of positive feedback. Students learned about science and energy in a fun, relaxed environment, while parents had a chance to observe their children’s learning processes and informally interact with teachers. One parent said, “It was really cool to see science stressed when we have been so busy thinking about reading and math, and to see them all tied together in a fun way.”

Roosevelt Elementary will host Science Family Night again next year. Because of rave reviews, the ATP will move the event to the gym, providing space for more families and a greater number of learning stations.



Science and Technology Expo

*John F. Kennedy School
Windsor, Connecticut*

For many science teachers across America, getting students to memorize periodic tables and the different kinds of igneous rocks can be a hard sell. But after last year's Science and Technology Expo, students at John F. Kennedy School are eager to dig in. Since the Expo, they've come to a much stronger understanding of how science connects to their everyday lives.

Kennedy's Action Team for Partnership (ATP) developed the event to support the school's science goal on its action plan. For the first time in recent years, the 2007-08 state achievement test asked students questions about science. Teachers at John F. Kennedy wanted to make sure their students were prepared. They decided to bolster the science curriculum at the school with activities that helped students understand material that could appear on the test. The Science and Technology Expo was the largest event associated with that goal.

Members of the ATP started planning early. They contacted as many parents and local businesses as they could think of that might be willing to donate some science-related services to the Expo. In early September, ATP members sent home a "save the date" note, letting parents know about the January Expo. Over the next few months, a few reminders went home with students along with ideas and notes about science activities that parents and students could do together at home. Ten days before the Expo, school staff had students make morning announcements about the event over the loudspeaker system.

On the evening of January 25th, 125 students and 75 parents came to the school cafeteria to witness the culmination of the ATP's planning and preparation. Fifteen exhibitors manned booths around the room that showcased a wide variety of science professions and industries. The school nurse, a parent who had a local chiropractor business, and a dentist

ran a booth about health science professions. The PTO's table explained the scientific process and the benefits of recycling. The high school robotics team brought their prized robots to the event. Kids and Critters, an animal lovers group associated with the high school, ran a small petting zoo where students were allowed to touch and hold various snakes. There were also representatives from the Vintage Radio and Communications Museum of Connecticut and from Dinosaur State Park, a landmark area where visitors can hike around fossilized remains of ancient creatures.

The event cost \$125 to produce and promote, from the promotional posters to refreshments served at the Expo. A family resource center associated with the school provided the funding.

Administrators from the district were so impressed by the Expo that they are considering holding a larger version of the event next year and include all four Windsor elementary schools.



Science – It’s All Family Fun!

*Leaphart Elementary School
Columbia, South Carolina*

Robots, foam gliders and a Mad Scientist were all part of the fun at Science Spectacular at Leaphart Elementary. Building on the success of an earlier literacy night, the Action Team for Partnerships (ATP) decided to try a science night to make science more interesting and attractive to Leaphart students. The team identified this need because test data suggested that students needed more and different instructional strategies to actively engage in learning science and to improve their achievement in the subject.

So, with an ATP member as the overall coordinator, the school put together a night of demonstrations and presentations showing how science can be fun. To increase interest, it tied the event to the school’s science fair, where students displayed their projects and competed for prizes.

“Science Spectacular was a huge hit and just an awesome event. My children raved about the presentations,” said one parent.

Staff members, community volunteers and parents made presentations, stressing inquiry and hands-on experiences. In addition, the young students had opportunities to interact with middle school students who were invited to give robotics demonstrations.

Science Night began with a pizza supper, but the meat of the evening was a variety of sessions and stations for adults and students to visit. These included Science through Literature, Animals at the Zoo, Robotics, Biofacts (information about animals and their habitats, plant growth and vegetation at a nearby park on the Saluda River), and “Phun” with Foam, where students built gliders from styrofoam, and learned about aerodynamics. In Engineering Dynamic Duo, students learned about different states of matter through observation and hands-on investigations, while the session How Big Can You Blow a Bubble? explored the effects of air and force on matter.

Second-grade habitat projects and fourth- and fifth-grade science projects were displayed throughout the school. First- second- and third-place ribbons were awarded to the science fair winners at the end of the evening.

In addition, students and their families enjoyed a show at dinner performed by a staff member of “MAD Scientist,” an educational organization that operates after-school science camps. The organization volunteered to entertain and students assisted the “mad scientist” in his demonstration of “solids, liquids and gases” involving dry ice.

The science night cost less than \$70, as the school received donations of food and funds. The school’s PTO paid for what was not donated.

The practice supported the school’s improvement goal of encouraging the use of inquiry in problem-solving. It also contributed significantly to shaping students’ perception of science as “fun” and encouraged them to see themselves as “scientists.” Overall, 150 students and 200 parents were involved, as were 20 teachers and seven community members.

Responses and informal evaluations were positive. “Parents, students, teachers and community members were able to come together and get excited about learning science. It’s the type of home-school relationship that is a win-win situation,” said the principal.

Next year, the school hopes to offer more and different activities to extend students’ excitement about science.



SCIENCE NIGHT WITH NAUTICUS

McINTOSH ELEMENTARY SCHOOL NEWPORT NEWS, VIRGINIA

To drum up excitement for science education, the Parent Involvement Team at McIntosh Elementary partnered with a nearby museum to bring added expertise and resources directly to students and their family members. This year, when educators from Nauticus—a nautical and science museum in Norfolk—set up shop in the school’s gym for the annual Science Night, the resulting thrills for students were quite literally hair-raising.

The effect of static electricity, however, wasn’t the only science topic that Science Night attendees had the opportunity to get their hands on. Nauticus representatives set up a series of five stations, each covering a different area. In addition to the electricity exhibition, Nauticus presented demonstrations on the weather, flowers, the water cycle, and sound—all of which matched the curriculum of the Virginia Standards of Learning (SOL) for science.

Organizers split the two-hour event into six 20-minute time slots. This gave students and parents an opportunity to participate in all five of the Nauticus science stations. The school integrated its Book Fair into the Science Night event and families could spend the remaining 20 minutes browsing through books to take home.

In addition to the presentations and demonstrations, Nauticus provided take-home booklets for parents that showed how to replicate some of the activities at home. These were written in English and Spanish.

The Nauticus “brand” was instrumental in encouraging families to attend. Children at McIntosh were already familiar with a local program that the museum offered once a week on a morning news show. Recognizing students’ fondness for Nauticus’s *Bill Nye the Science Guy*-inspired program, the school presented the idea for the science night to the museum. The museum leaders were happy to participate.

In advance of the event, teachers collabo-

rated on a list of SOL science topics and provided them to Nauticus. The museum designed the Science Night with these requirements in mind. A particular challenge, says the Parent Involvement Specialist, was to ensure that the educational materials and demonstrations pertained to state science guidelines for *all* grade levels, K–5.

Not only did the Science Night engage students in fun, interactive instruction that reinforced the SOL-tested curriculum, but showed parents what their children were expected to know on these tests. Teachers also benefited by meeting the students’ families and observing all of the science-related interactions. Over 150 students and 200 family members came to the event.

Funding for the activity, \$500 for Nauticus’s fee and miscellaneous materials, came from the school’s Title I budget.

Due to Science Night’s success, planners expect to invite Nauticus to return in the future. The team also will seek other museum partners to provide a variety of programming.



Science Sci-Fari Adventure

*Newtown Road Elementary School
Virginia Beach, Virginia*

On a hunt to raise science test scores, the Science Action Team at Newtown Road Elementary School set its sights on a way to build interest in science. After much brainstorming, the team hit upon the idea of a science discovery night. They decided to call it the Science Sci-Fari Adventure.

This trek led parents and students through a maze of stations in the school gymnasium, where they made discoveries and found answers to various science questions posed for the event. The goal was to answer 12 or more questions to receive a science fair button. Each teacher selected a topic months in advance and put together a discovery station, with posters created by the students.

In the fifth-grade area, for instance, the questions included: "Which item did mold grow on the fastest?" Or, in the first-grade area, one of the questions was: "Did the plant that received Coke instead of water grow? How tall?"

"This was as much fun for me as for my child," said one parent. "Wow, can you believe the number of people who turned out for this?" commented a happy teacher. More than 200 students and 150 parents—over half of Newtown Road's student body—went on the Sci-Fari.

Held in the spring, the Sci-Fari Adventure culminated a year's worth of work on a redesigned curriculum that called for Newtown's teachers to teach science more actively. On the night of the Sci-Fari, families and students received two booklets, one to work

through that night and a larger one of activities to complete at home.

In addition to the school learning stations, the Sci-Fari invited several local science clubs to attend. The Back Bay Amateur Astronomers and the Old Dominion Earth Science Society (ODESS) both put up displays.

The day after the fair, teachers took students through the gym so that even those who could not attend the Sci-Fari could still view the learning stations.

The increased interest generated by the event showed in higher scores on the science exams. The school's fifth graders improved by 13%. The science team's success with this event has encouraged its members to begin planning for next year's Sci-Fari. They are working on ways to speed up registration and bring in more community partners to share their own enthusiasm for science with Newtown Road's students.



Start with Success at the Science Museum

*Stanley M. Makowski Early Childhood Center #99
Buffalo, New York*

The Buffalo Museum of Science approached Stanley M. Makowski Early Childhood Center to form a partnership. Makowski ECC is located less than four blocks from the museum, and children frequently walk there to visit its special exhibits. The Action Team for Partnerships (ATP) welcomed a partner that could support the school's improvement goal to teach science using a hands-on approach. The partnership also provided opportunities for school events that included educational activities for students' families. Start with Success, an annual school event, benefited from the school-museum partnership.

Two weeks prior to the event, Makowski teachers went to the museum and received training in the hands-on exhibits by the museum's educational department and scientists. Staff members picked themes and exhibits that interested them. In addition, a group of staff members contacted community agencies to set up informational displays about services they provide to both students and families.

The ATP sent home several notices to parents about the museum's exclusive three-hour evening event planned just for Makowski families. The museum agreed to provide free one-year memberships to each family and staff member that attended Start with Success.

When the big night arrived, staff members left school at the end of the day and went straight to the museum. The parent organization provided dinner for both the school and the museum staff prior to the families arriving. Teachers manned their stations and exhibits. Community agencies set up their display tables on the second floor veranda, and the school administrative staff greeted families at the door.

As families entered the museum, they received a "Passport to the Stars," designed by a Makowski teacher and listing all of the interactive exhibits the families could visit. After visiting each exhibit, the passports were punched with a star. The exhibits included: mammals, artifacts, Ancient Egypt, the Solar System, and a dinosaur dig. Families also visited the community agency displays and

learned about available resources. After visiting the exhibits and displays, families snacked on refreshments and filled out museum membership applications. Within the month, each family received their one-year membership in the mail.

The response to Start with Success at the Buffalo Museum of Science was overwhelming. Not counting the staff, there were 898 people who attended and over 400 families who applied for memberships. Children and their parents thoroughly enjoyed learning together. Parents had an opportunity to meet their child's teacher in a positive educational setting. Many parents commented that even though they had lived in the surrounding neighborhood for many years, they had never been to the Buffalo Museum of Science and were impressed by all that it had to offer. Other parents said that this was the best thing they had ever attended. Both the school and museum staff were thanked repeatedly. Most important, the museum's generous offer of free memberships allowed students and their families to visit the ever-changing exhibits frequently and continue their learning.

The partnership between Makowski ECC and the Buffalo Museum of Science impacted other school events. For example, the museum hosted Math Outreach and in-house programs such as sending penguin artifacts to the penguin-themed Family Reading Night. Museum staff set up a Paleontology Dig on Math and Science Night at the school. They trained staff in the use of the school's STARLAB and provided follow-up programs about the stars and the solar system. Museum staff worked with individual and groups of teachers to design hands-on programming around a particular science topic. Each time Makowski children visit the museum, parents are invited. The museum staff also sponsored overnight sleep-ins at the science museum and has awarded free scholarships to Makowski students for museum summer programs.

Thanks to this school-museum partnership, students, parents, and staff are reaching their goal of learning science using a hands-on approach.



Weather Academy and Family Involvement

Northwoods Elementary School

Eau Claire, Wisconsin

TV, hot dogs and the weather proved to be a winning combination at Northwoods Elementary School. More than 300 people showed up on a May evening when the school and a local television station turned an open house into an event to increase parent involvement in science and to strengthen school, family and community partnerships. The “open house” was part of the TV station’s “Weather Academy,” a meteorology program offered to area schools.

The academy is primarily a science-based, experiment-driven, one-hour presentation about the weather for Grades 3 to 5. Presented by the three meteorologists from the local TV station, it involves some exciting experiments around the weather, including air pressure, effects of warm and cold fronts, tornado development and lightning.

After the daytime presentation, the presenters came back in the afternoon with TV trucks to broadcast the nightly weather news from the school. This portion of the program is called “open house” and students, parents and teachers were invited.

Northwoods decided that the open house should be not only a weather show for the station, but also a time to have parents and children come for a hot dog supper. “This is when things got interesting and evolved into a real partnership with the community and families,” said the school’s parent coordinator.

The event was held in the school cafeteria and gym. The mascot from a local Northwoods League baseball team visited and gave away team souvenirs. The partnership coordinator worked with 10 teachers, 2 custodians, 18 parents and a media specialist to make it happen. Teachers rearranged schedules, encouraged children to make weather-themed table decorations and set up computers, TVs and sound systems.

The parents took charge of organizing the supper. One parent bought all the paper products, while other parents were in charge of setting up, cooking, serving and cleaning up. Because many of the parents were new to Northwoods, the partnership coordinator took time to introduce the parent volunteers to each other. This planted seeds for future collaboration, community-building, and leadership at Northwoods.

“This practice is a great example of turning a ready-made community program into an opportunity for school-family-community partnerships,” said the coordinator. Although many parents volunteer at Northwoods, school personnel felt that it was getting more difficult for parents to attend meetings and activities at the school. Their goal was to build on community partnerships in such a way that parents would consider the school as a resource and desirable place to be. “The local TV station’s “Weather Academy” program was just what Northwoods needed to reach out to its families and to celebrate students’ science learning,” she concluded.

The school advises others to find out about existing programs in the community in science, the arts, music, civics, and health that can be brought to the school. Then, build on the program by inviting parents and children to enjoy it together. Although a different school will host the “Weather Academy” next year, Northwood is planning a Spring Barbecue, and hopes to find another community program to tie into it that will make the event fun and educational.